56. [Amended] The method as in Claim 7, wherein said step of selecting said first material includes the step of absolute value is less than approximately 0.14 eV.

REMARKS

In response to the requirement for restriction, Applicant provisionally elects with traverse method claims 7, 10 and 14-15 which were classified by the Examiner as Species 1. Reconsideration of the grouping of the claims into seven species is respectfully requested.

Claim 7 and its dependent claims are directed to a method of making a magnetoresistive sensor that is formed with first and second ferromagnetic layers, and an electrically conductive spacer between the ferromagnetic layers. The ferromagnetic layers and the spacer are characterized as having specified electronegativities such that the absolute value of the difference between the electronegativities of the of the first ferromagnetic layer and the spacer is minimized. The crystal structures of the first ferromagnetic layer and the spacer are substantially the same.

Claims 10, 14 and 15, amended Claim 20 and its dependent Claim 24, and amended Claim 56 now derive from Claim 7. It should be noted that Heusler alloys, sublattice materials, and crystal structures including face centered crystal (FCC) or body centered crystal (BCC) cubic materials are not exclusive of each other and combinations of these characteristics may be found in certain materials. Enclosed is a text obtained from the internet citing a paper delivered at a convention which describes Heusler Alloy superlattice materials, as an example. A listing of the materials that can be used to implement the invention is set forth on page 35, lines 5-16, of the present specification. This listing includes, inter alia, Ni, Pt, Mn, and rare earth elements having FCC or BCC structures. Applicant respectfully submits that method Claims 7, 10, 14-15, 20, 24, 56, 63 and 64 should be prosecuted in the same application since these claims are linked by common subject matter and substantially recite similar steps and limitations. Furthermore, apparatus Claims 38-39, 47-48, 50, 66, 79, 82 and 96-98, which are directed to a magnetoresistive

sensor, should be prosecuted in the same application as the corresponding method claims. The method claims define the steps of making the magnetoresistive sensor set forth in the apparatus claims. Compare amended Claim 7 with amended Claim 38, for example. The processes delineated in the method claims are particularly used for making the claimed sensors. It would be more expedient and proper for all the claims to be prosecuted in the same application, instead of piecemeal prosecution in different applications. In the event that the Examiner's requirement for restriction is maintained, those claims that are not included for prosecution in the instant application are to be held in abeyance pending the filing of one or more divisional applications.

Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached page is captioned **"Version with markings to show changes made."**

Respectfully submitted,

Nathan N. Kallman

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Version with markings to show changes made."

14. [Amended] The method as in Claim [12] 7, wherein said step of selecting said second material includes the step of selecting said material from a group consisting of Cr, W, V, Nb, Mo, Ta and binary, ternary and higher order alloys of said elements.

15. [Amended] The method as in Claim [12] 7, wherein said step of selecting said first material includes the step of selecting ferromagnetic materials from the group comprising Fe_{1-u} Cr_u, where u is an atomic fraction with a value between 0.40 and 0.70, Fe_{1-w} V_w, where w is an atomic fraction with a value between 0.25 and 0.35, ternary alloys of Fe, Cr and V, and Fe_3Al.

20. [Amended] [A method of making a magnetoresistive sensor formed with an electrically conductive spacer interposed between a first and a second ferromagnetic layer, comprising the steps of:

selecting a first material having a first

electronegativity for said first ferromagnetic layer;

selecting a second material having a second electronegativity for said electrically conductive spacer; and

selecting a third material having a third electronegativity for said second ferromagnetic layer;

wherein an absolute value of a difference between said first and second electronegativities is minimized,] The method as in Claim 7, wherein said step of selecting said first material includes the step of selecting a first Heusler alloy, wherein said first Heusler alloy [having] has a composition of M_1MnM_2, where M_1 is an element selected from the group consisting of Al, Ga, Ge, As, In, Si, Sn and Bi, and M_2 is an element selected from the group consisting of Co, Ni, Cu, Ir, Pd, Pt and Au.

56. The method as in Claim [55] 7, wherein said absolute value is less than approximately 0.14 eV.

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I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner of Patents and Trademarks, Washington, D.C. 20231 on February 9 2002.

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